

CLAIMS

1. A portable generator positionable on a support surface, the portable generator comprising:

a frame;

5 an internal combustion engine coupled to the frame and including an output shaft that is substantially normal to the support surface during generator operation;

an electrical energy source having a rotor coupled to the output shaft for rotation therewith;

10 a fuel tank coupled to the frame and defining a fuel chamber, and having an opening that extends through the fuel tank; and

an output unit at least partially positioned in the opening.

2. The portable generator of claim 1, wherein the fuel tank includes a first wall, a second wall spaced from the first wall, sidewalls extending between the first and second walls, and opening walls defining the opening and extending between the first and second walls.

3. The portable generator of claim 2, wherein the output unit includes a flange engaging the first wall and a mounting bracket engaging at least one of the opening walls, the mounting bracket and the flange cooperating to maintain the output unit in a substantially fixed position within the opening.

4. The portable generator of claim 1, wherein the output unit includes a panel having output terminals and facing away from the fuel tank, and a coupling portion positioned at least partially within the opening.

5. The portable generator of claim 4, wherein the coupling portion includes a plurality of terminals coupleable to the engine and the generator.

6. The portable generator of claim 1, further comprising wheels rotatably coupled for rotation about a pivot axis.

7. The portable generator of claim 6, further comprising a plane extending through the pivot axis and generally perpendicular to the ground, wherein the engine and source are positioned on one side of the plane and the fuel tank and output unit are positioned on an opposite side of the plane.

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8. The portable generator of claim 1, further comprising a one-piece mounting member mounted to the frame, wherein the engine is mounted to one side of the mounting member, and the source includes a fixed portion mounted to an opposite side of the mounting member.

9. A generator positionable on a support surface, the portable generator comprising:

a frame;

5 a one-piece mounting member coupled to the frame and having a central portion, a first side, a second side, and a plurality of mounting arms extending from the central portion;

an internal combustion engine coupled to the first side of the mounting member and including an output shaft that extends through the mounting member and is substantially normal to the support surface during generator operation;

10 an electrical energy source having a rotor coupled to the output shaft for rotation therewith, and a stator coupled to the second side of the mounting member;

a fuel tank coupled to the frame and defining a fuel chamber; and

15 an output unit communicating with at least one of the engine and the energy source.

10. The generator of claim 9, further comprising a plurality of isolator mounts coupling the mounting member and the frame.

20 11. The generator of claim 9, wherein the a fuel tank defines an opening that extends through the fuel chamber, and wherein at least a portion of the output unit is positioned within in the opening.

25 12. The generator of claim 11, wherein the fuel tank includes a first wall, a second wall spaced from the first wall, sidewalls extending between the first and second walls, and opening walls defining the opening and extending between the first and second walls.

30 13. The generator of claim 12, wherein the output unit includes a flange engaging the first wall and a mounting bracket engaging at least one of the opening walls, the mounting bracket and the flange cooperating to maintain the output unit in a substantially fixed position.

14. The generator of claim 9, wherein each mounting arm includes an engine mount, a frame mount, and a source mount.

5. 15. The generator of claim 14, wherein the engine is coupled to each engine mount by engine fasteners, the frame is coupled to each frame mount by isolator mounts, and the energy source is coupled to each source mount by source fasteners.

16. A portable generator positionable on a support surface, the portable generator comprising:

a frame;

a one-piece mounting member coupled to the frame and having a first side and a second side;

an internal combustion engine coupled to the first side of the mounting member and including an output shaft that extends through the mounting member and is substantially normal to the support surface during generator operation;

an electrical energy source having a rotor coupled to the output shaft for rotation therewith, and a stator coupled to the second side of the mounting member;

a fuel tank coupled to the frame and defining a fuel chamber and an opening that extends through the fuel chamber; and

an output unit at least partially positioned in the opening.

17. The portable generator of claim 16, further comprising a plurality of isolator mounts coupling the mounting member to the frame.

18. The portable generator of claim 16, wherein the fuel tank includes a first wall, a second wall spaced from the first wall, sidewalls extending between the first and second walls, and opening walls defining the opening and extending between the first and second walls.

19. The portable generator of claim 18, wherein the output unit includes a flange engaging the first wall and a mounting bracket engaging at least one of the opening walls, the mounting bracket and the flange cooperating to maintain the output unit in a substantially fixed position.

20. The portable generator of claim 16, further comprising wheels rotatably coupled for rotation about a pivot axis.

21. The portable generator of claim 16, wherein the one-piece mounting member includes a central portion and a plurality of mounting arms extending from the central portion, and wherein each mounting arm includes an engine mount, a frame mount, and a source mount.

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22. The portable generator of claim 21, wherein the engine is coupled to each engine mount by engine fasteners, the frame is coupled to each frame mount by isolator mounts, and the energy source is coupled to each source mount by source fasteners.

23. A generator positionable on a support surface, the generator comprising:

a frame;

a one-piece mounting member coupled to the frame and having a central portion, a first side, a second side, and a plurality of mounting arms extending from the central portion, each mounting arm including a frame mount, an engine mount, and a source mount;

an internal combustion engine coupled to the first side of the mounting member and including an output shaft that extends through the central portion and is substantially normal to the support surface during generator operation;

an electrical energy source having a rotor coupled to the output shaft for rotation therewith, and a stator coupled to the second side of the mounting member;

a fuel supply supplying fuel to the engine; and

an output unit communicating with at least one of the engine and the energy source.

24. The generator of claim 23, further comprising a plurality of isolator mounts, each isolator mount coupled to one of the frame mounts and coupling the mounting member to the frame.

25. The generator of claim 23, wherein the fuel supply includes a gas supply line.

26. The generator of claim 23, wherein the engine is coupled to each engine mount by engine fasteners, the frame is coupled to each frame mount by isolator mounts, and the energy source is coupled to each source mount by source fasteners.

27. The generator of claim 23, further comprising an enclosure defining a first air inlet manifold directing air toward the engine, a second air inlet manifold directing air toward the source, and an air outlet manifold directing air away from the engine and out of the enclosure.

28. A generator positionable on a support surface, the generator comprising:

a frame;

a mounting member coupled to the frame and having a central portion defining a plurality of airflow openings, a first side, and a second side;

an internal combustion engine coupled to the first side of the mounting member and including an output shaft that extends through the central portion and is substantially normal to the support surface during generator operation;

an electrical energy source having a rotor coupled to the output shaft for rotation therewith, and a stator coupled to the second side of the mounting member, the stator defining an air inlet opening adjacent the support surface;

an enclosure having at least first and second sidewalls and a top wall that cooperate to surround the engine, the energy source, and the mounting member, the enclosure defining a first air flow path that guides air from the top wall toward the engine, and from the engine toward the first sidewall, and a second air flow path that guides air from the second sidewall toward the air inlet opening defined by the stator, and through the stator toward the airflow openings in the mounting member.

29. The generator of claim 28, wherein the enclosure includes an intake manifold extending between the top wall and an upper portion of the engine for guiding air from the air flow apertures in the top wall toward the engine during generator operation.

30. The generator of claim 28, wherein the enclosure includes an engine exhaust duct extending between the engine and one of the sidewalls for guiding air from the engine toward the one sidewall during generator operation.

31. The generator of claim 30, wherein the engine includes a muffler positioned at least partially within the engine exhaust duct, and wherein air flowing away from the engine toward the first sidewall flows over the muffler.

32. The generator of claim 28, wherein the enclosure includes a source inlet manifold extending between the second sidewall and the air inlet opening for guiding air toward the air inlet opening during generator operation.